

RECENT OBSERVATIONS AND HABITAT
PREFERENCE OF THE KULTARR,
ANTECHINOMYS LANIGER, IN THE NORTHERN
TERRITORY

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Introduction

The Kultarr, *Antechinomys laniger*, is to be found in scattered populations throughout much of the arid zone of Australia but is considered to be rare over most of its range (Valente 1984). During a three year study of the biology and distribution of the European Rabbit, *Oryctolagus cuniculus*, in the Northern Territory, the Kultarr was found to be inhabiting specific areas which were infested with rabbits. The habitat of these areas was severely degraded. Opportunistic observations were made to gain some insight into the sharing by a native mammal and an introduced pest species of a mutually preferred and considerably altered habitat. The observations are discussed particularly in relation to the Kultarr's status and habitat preference.

Methods

The study period was between August 1980 and August 1983. Observations were made at night while spotlighting for rabbits along transects that covered numerous habitat types. Some of these transects were in areas free of rabbits. Where possible the Kultarr was caught by hand but as the rabbit had priority most observations were sightings only. Time did not permit more detailed examination beyond recording the sex of captured animals.

Study Area

The rabbit study was carried out at eight major sites throughout the southern Northern Territory between latitude 22°45' S and latitude 26°00' S. The most northerly site was on Newhaven and Mt Wedge Stations followed by The Garden, Ambalindum, Simpsons Gap National Park and Temple Bar, Owen Springs, Idracowra, Eridunda and by Mt Cavenagh Station, the most southerly site. In general the study sites were visited at approximately three month intervals on a seasonal basis. Although rainfall during the year prior to the first sighting

of the Kultarr was below average, during the following period it was above average with a high summer incidence. Average annual rainfall ranges from 275mm at Mt Wedge through 263mm at Owen Springs to 185mm at Idracowra.

Results

Eleven *A. laniger* were seen on thirty visits to Owen Springs Station, sixteen were seen on ten visits to Idracowra Station and two were seen together on one of nine visits to Mt Cavenagh Station. Rabbit shooters also reported seeing the Kultarr in the Mt Cavenagh area. The species was not seen at any of the other study sites. Figure 1 shows the locations of the sightings within the Station boundaries. On a later visit to the study site on Owen Springs in February 1984 at least six were observed and two weeks later Gibson (pers. comm., 1985) observed fourteen in the area.

Surveys of the three Stations where the Kultarr was seen varied within the period of the rabbit study. The Owen Springs area was visited between March 1981 and March 1983. The rabbit study on Owen Springs was wide ranging and the visits covered different areas of the Station at various times. The main Idracowra site was visited between February 1981 and December 1982. On the first visit to Idracowra *A. laniger* was also seen west of the railway line (Fig. 1) but this area was not covered on subsequent surveys. Mt Cavenagh was visited between December 1980 and April 1983. Sightings were made in all months of the year except May and November.

Six animals were captured and five of these were males. The one female, caught on Owen Springs on 1 December 1982, had naked young. This is near the end of the breeding cycle reported by Woolley (1984). A female caught on the February 1984 visit to Owen Springs was found to be lactating.

The three widely separated areas where *A. laniger* were seen in this study have similarities which may suggest a preferred habitat type for the species.

The area on Owen Springs Station consists of gently sloping or undulating calcrete plains, a unit of Muller Land Systems as described by Perry *et al.* (1962). The soils are mainly shallow calcareous earths with nodules of calcrete throughout the soil profile. Areas of bare ground more or less covered with calcrete nodules are not uncommon and shallow gullying is extensive. The vegetation is sparse with

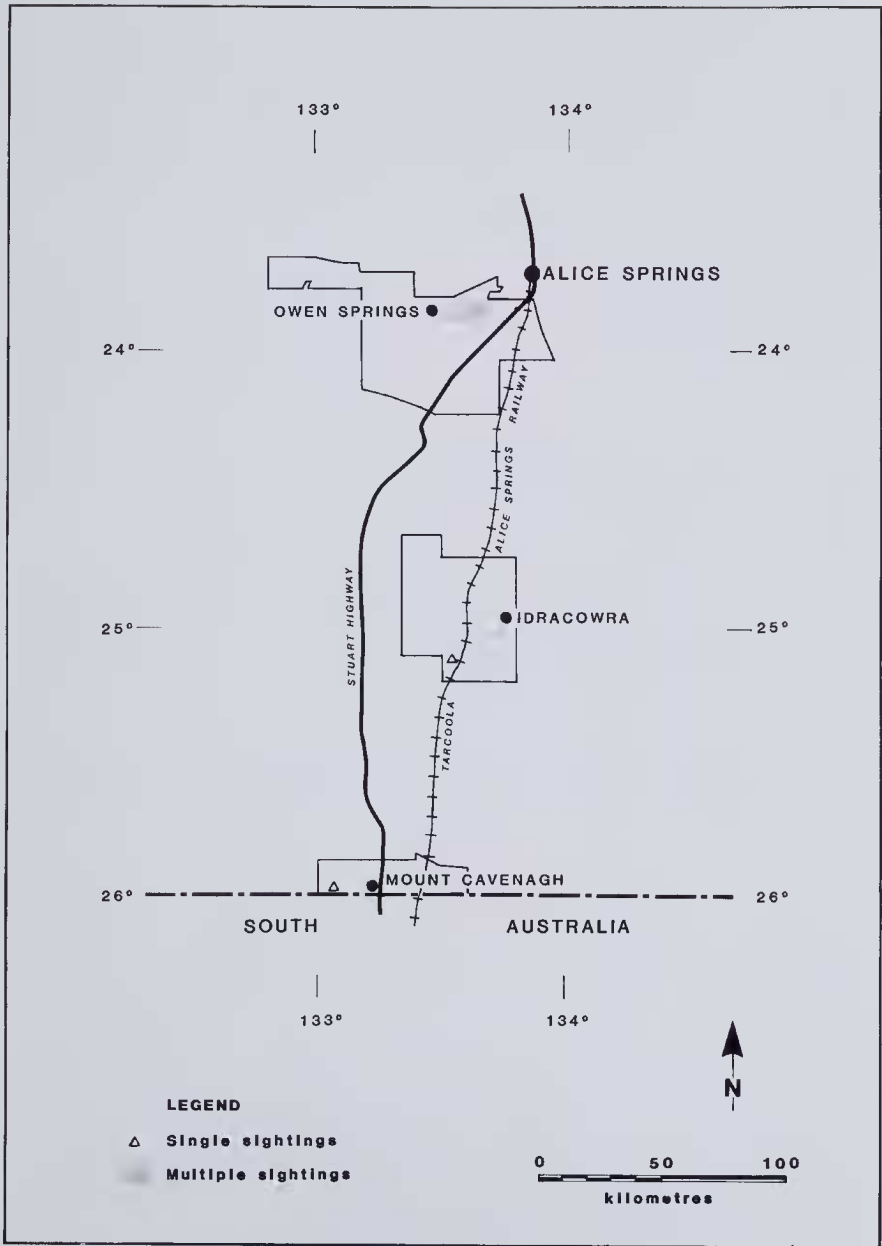


Fig. 1. Location of *Antechinomys laniger*

Witchetty Bush *Acacia kempeana* dominating the upper storey except along the major creek lines where Ironwood *Acacia estrophiolata* tends to dominate. The understorey is composed mainly of short biennial grasses (*Enneapogon* spp. dominant) and forbs (*Sclerolaena* spp. dominant), with some extensive areas of perennial grasses where *Aristida glandulosa* dominates.

The main area on Idracowra Station consists of gently undulating stony plains with occasional sand dunes, being units of Ebenezer and Endinda Land Systems (Perry *et al.* 1962). Calcareous soils are less common in Endinda Land System but as with Muiler and Ebenezer Land Systems seem to be one of the factors of importance to the Kultarr. Areas of bare soil with or without lateritic surface gravel, in the form of claypans are found throughout. Vegetation is very sparse and in this case almost treeless. Chenopods, particularly Southern Bluebush *Maireana astrotricha*, are dominant. The area west of the railway line is a unit of Ebenezer Land System.

The Mt. Cavenagh site, a unit of Cavenagh Land System (Perry *et al.* 1962), is similar to the Owen Springs site, however *Sclerolaena* sp. are almost absent from the vegetation and the soils are derived from low granite hills in the area with intrusions of calcrete. Clay pans are a feature of the site.

Habitats adjoining these areas included sand dunes, Mulga woodland, river frontage with River Red Gums *Eucalyptus camaldulensis* and small swamps of Northern Bluebush *Chenopodium auricomum* with minor Coolibah *Eucalyptus microtheca*. *A. laniger* was not seen in these habitat types where the vegetation was often quite dense.

Habitats covered on the study sites where the Kultarr was not seen were very diverse and ranged through spinifex sand plains, hills and salt lakes to various *Acacia* shrublands and arid woodlands.

Discussion

Valente (1984) describes the Kultarr as being adapted to life on open land, and inhabiting desert plains, stony and sandy country where grasses and small bushes constitute the principal vegetation, and *Acacia* scrubland. The factor common throughout the three sites of this study where the animals were seen is a mixture of bare ground and open sparsely vegetated ground, often on calcareous soils and this agrees with Valente's habitat descriptions. The sites are well suited for the animals' adaptation to living in an open habitat. The

mixture of bare ground and sparsely vegetated ground may also be important for the Kultarr to forage for insects in the bare areas with the vegetated areas providing shelter as well as prey.

The species is also considered by Valente (1984) to be rare over most of its range with populations fluctuating with seasonal conditions. Because of the infrequency of the visits to the sites and the different areas covered on Owen Springs especially, it is difficult to comment on abundance or on any likely seasonal variation in population levels. However, they were found to be fairly common in at least two of the areas studied and in general were seen fairly constantly throughout the period of the sightings.

While stating that the Kultarr appears to be neither endangered nor vulnerable and not directly affected by human activity, Valente (1984) considers that its security may be reduced by changed or intensified land use. The three areas of this study are amongst the severely degraded rangelands in Central Australia. They have been subject to cattle grazing since before the turn of the century and have suffered from degradation by rabbits for a similar period. While there is no direct competition between the Kultarr and rabbits and cattle for food, it has been able to survive and apparently thrive in an environment that has been severely affected by man's introduced mammals. In an ironic twist it could be that a native mammal has been able to benefit, in at least one habitat, from severe land degradation.

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THE STATUS OF CUCKOO-SHRIKES (CAMPEPHAGIDAE) IN THE DARWIN AREA, NORTHERN TERRITORY, 1974-1984.

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Summary

Five species of two genera of cuckoo-shrikes occur in the Darwin region. Counts taken throughout an eleven-year period indicate that three species are year-round residents and two species are dry season visitors. The Black-faced Cuckoo-shrike appears to have a peak northwards passage in May with many birds probably leaving Australia for the New Guinea region. Brief data on local breeding are presented and a few taxonomic remarks given.

Introduction

This is the fourth of a series of papers summarizing data on birds in the area of the Sanderson Sewerage Ponds, Darwin from 1974 to 1984. The study is continuing. Although the observations are subject to observer bias, they have been made with reasonable monthly regularity.

To arrive at figures for the histograms, the maximum number of each species recorded monthly at every site was scored. These monthly values were then totalled and averaged to arrive at mean monthly values for the eleven-year period.

To test whether the population samples were significantly different from month to month, the data were tested by the Friedman two-way analysis of variance. The monthly figures are ranked within a given